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Part 1 – Listing of Claims showing Amendments

1. (Canceled)
2. (Currently Amended) A method ~~An accessory connector~~ as defined in claim 40, ~~[[4-]]~~ further comprising:
connecting the two mating pieces by moving the two mating pieces together along an axis in a relative axial connection movement; and wherein:
5 the cylindrical recess defines a [[the]] sealing surface which extends parallel to the axis over a predetermined length; and
the predetermined length of the sealing surface permits the gas seal
~~sealing member~~ to contact and seal against the sealing surface over the range of relative connection movement approximately equal to the predetermined length of the
10 sealing surface along the axis.
3. (Currently Amended) A method ~~An accessory connector~~ as defined in claim 2, ~~[[4-]]~~ wherein:
the gas passageway and the internal gas flow path are circumscribed by the sealing surface and the contact of the gas seal
~~sealing member~~ with the sealing
5 surface; and
the connector electrode and the electrical terminal are circumscribed by the sealing surface and the contact of the gas seal
~~sealing member~~ with the sealing surface.
4. (Canceled)
5. (Currently Amended) A method ~~An accessory connector~~ as defined in claim 40, ~~[[4-]]~~ wherein:
the gas seal ~~sealing member~~ is annularly shaped.
6. (Currently Amended) A method ~~An accessory connector~~ as defined in claim 5, wherein:
the gas seal ~~sealing member~~ comprises a resilient O-ring.
7. (Currently Amended) A method ~~An accessory connector~~ as defined in claim 6, wherein:

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the ~~male~~ other mating piece includes an extension which extends concentrically about the axis;

- 5 the O-ring is retained on the extension; and
the O-ring compresses substantially only radially between the extension and the sealing surface.

8. (Currently Amended) A method ~~An accessory connector~~ as defined in claim 7, wherein:

the ~~generally cylindrically-shaped~~ sealing surface extends concentrically along the axis over a predetermined length; and

- 5 the predetermined length of the sealing surface permits the O-ring to contact, move along and seal against the sealing surface over a a ~~[[the]]~~ range of relative connection movement approximately equal to the predetermined length of the sealing surface ~~along the axis~~ when the mating pieces connect with relative connection movement.

9. (Currently Amended) A method ~~An accessory connector~~ as defined in claim 8, wherein:

the extension is hollow;

the gas moves through the hollow extension; and

- 5 at least one of the electrical terminal or connector electrode extends through the hollow extension.

10. (Currently Amended) An accessory connector as defined in claim 16, ~~[[4,]]~~ further comprising:

- a retention mechanism operative between the connected mating pieces to restrain the connected mating pieces against separation from one another by
5 movement of the connected mating pieces away from one another, ~~another along the axis~~;

11. (Previously presented) A gas-assisted electrosurgical accessory connector formed by two mating pieces connectable to one another with a relative connection movement along an axis toward one another, comprising:

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a sealing surface formed on one mating piece and extending generally
5 parallel with the axis for a distance along the axis;

a resilient radial sealing member carried on the other mating piece at a
location which contacts and seals against the sealing surface with radial force upon
the two mating pieces connecting with relative connection movement;

a retention mechanism operative between the mating pieces when
10 connected with relative connection movement, the retention mechanism restraining
the connected mating pieces against separation from one another with movement
away from one another along the axis, wherein the retention mechanism further
comprises:

a recess formed on one of the mating pieces; and

15 a retention member carried on the other one of the mating pieces, the
retention member moving into the recess upon the two mating pieces connecting with
relative connection movement, the retention member moving out of the recess with
manual force applied between the two connected mating pieces to separate the
connected mating pieces from one another.

12. (Previously presented) An accessory connector as defined in claim 11,
wherein:

the one of the mating pieces upon which the recess is formed includes
a cylindrical end portion;

5 the other one of the mating pieces upon which the retention member is
carried comprises an annular slot into which the cylindrical end portion extends upon
connection of the mating pieces with relative connection movement;

the cylindrical end portion includes a detent formed therein;

the recess includes the detent; and

10 the biased retention member includes a ball positioned in the other one
of the mating pieces at a position within the annular slot to contact and extend within
the detent upon connection of the mating pieces with relative connection movement
and to withdraw from within the detent upon separation of the mating pieces from one
another.

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13. (Original) An accessory connector as defined in claim 12, wherein the retention mechanism further comprises:

a biasing member operative between the ball and the other one of the mating pieces to bias the ball into the detent upon connection of the mating pieces
5 and to resist withdrawal of the ball from the detent upon separation of the mating pieces.

14. (Original) An accessory connector as defined in claim 13, wherein: the biasing member comprises a coil spring.

15. (Previously presented) An accessory connector as defined in claim 13, wherein:

the cylindrical end portion includes a forward facing cylindrical contact surface;

5 a plurality of detents are formed and circumferentially spaced at locations in the forward facing contact surface;

the one mating piece includes a channel having an outer end which opens into the annular slot;

the ball is positioned within the channel; and

10 the biasing member comprises a coil spring located within the channel to bias the ball into contact with the detents and the forward facing contact surface of the cylindrical end portion upon connection of the mating pieces with relative connection movement.

16. (Previously presented) A gas-assisted electrosurgical accessory connector having a male mating piece and a female mating piece which interconnect together to conduct RF electrical energy and a gas flow from a gas-assisted electrosurgical unit to an electrosurgical accessory; the gas-assisted electrosurgical
5 unit including an electrosurgical generator which generates RF electrical energy and a gas delivery apparatus which delivers the gas flow; the electrosurgical accessory including the male mating piece, an accessory hose, an accessory conductor, a nozzle connected to receive the gas flow from the accessory hose and to issue the gas flow as a flow stream, and an electrode positioned within the nozzle and

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10 connected to the accessory conductor to transfer the RF energy to ionize conductive pathways within the flow stream; the male mating piece including a gas passageway that is adapted to be fluidly connected to the accessory hose, the male mating piece also including a connector electrode that is adapted to be electrically connected to the accessory conductor; the female mating piece including an electrical terminal that is
15 adapted to receive the RF energy generated by the electrosurgical generator and to electrically contact the connector electrode of the male mating piece upon interconnection of the female and male mating pieces, the female mating piece also including an internal gas flow path that is adapted to receive the gas flow delivered from the gas delivery apparatus and to conduct the gas flow to the gas passageway
20 of the male mating piece upon interconnection of the female and male mating pieces; the accessory connector further comprising:

an annular and radially compressible gas seal member attached to the male mating piece and surrounding the gas passageway; and

an outer wall attached to the female mating piece and surrounding the
25 internal gas flow path, the outer wall defining a cylindrical recess therein, the cylindrical recess receiving the annular gas seal member in radial compression against the cylindrical recess to create a gas tight connection between the gas flow path and the gas passageway upon interconnection of the male and female mating pieces.

17. (Original) An accessory connector as defined in claim 16, wherein the female and male mating pieces include complementary threads which mesh with one another upon screwing the male mating piece into the female mating piece to interconnect the mating pieces, the accessory connector further comprising:

5 a retaining mechanism including a biasing element connected to one of the mating pieces to bias the male mating piece against unscrewing from the female mating piece.

18. (Original) An accessory connector as defined in claim 17, wherein:
the male mating piece has a forward edge;

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the retaining mechanism includes a series of detents on the forward edge of the male mating piece;

5 the retaining mechanism includes a ball connected to the female mating piece at a location to fit within a detent upon interconnection of the female and male mating pieces; and

the biasing element comprises a spring connected to the ball to bias the ball into the detent upon interconnection of the female and male mating pieces to
10 restrain the male mating piece against unscrewing from the female mating piece.

19. (Original) An accessory connector as defined in claim 16, wherein the gas seal member comprises an O-ring.

20. (Original) An accessory connector as defined in claim 19, wherein the male mating piece includes a hollow sleeve member and an interior hub member surrounded by the sleeve member and confined within the sleeve member, the sleeve member rotating relative to the hub member, the sleeve member including external
5 threads, and the gas passageway extending through the hub member; the female mating piece including a receptacle housing which defines an interior receptacle with interior threads, the interior gas flow extending through the receptacle housing and into the receptacle; the male mating piece is interconnected to the female mating piece by screwing the threads of the sleeve member into the threads of the
10 receptacle, and the gas passageway extends through the hub member, and wherein:
the O-ring is attached to the hub member.

21. (Original) An accessory connector as defined in claim 16, wherein the electrical terminal is at least partially within the gas flow path, the accessory connector further comprising:

a terminal seal connected around the electrical terminal to create a gas
5 tight seal between the electrical terminal and the female mating piece to prevent gas from flowing from the gas flow path out of the female mating portion around the electrical terminal.

22. (Canceled)

23. (Canceled)

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24. (Canceled)

25. (Canceled)

26. (Previously presented) A gas-assisted electrosurgical accessory connector formed by two mating pieces connectable to one another with a relative rotational connection movement along an axis toward one another, the accessory connector conducting a gas flow and RF electrical energy between the two mating
5 pieces comprising:

a retention mechanism operative between the mating pieces when connected with relative connection movement, the retention mechanism restraining the connected mating pieces against rotation with respect to one another to separate from one another along the axis, wherein the retention mechanism comprises:

10 a recess formed on one of the mating pieces;

a retention member carried on the other one of the mating pieces, the retention member moving into the recess upon the two mating pieces connecting with relative connection movement, the retention member moving out of the recess from manual rotational force applied between the two mating pieces to separate the mating
15 pieces from one another.

27. (Original) An accessory connector as defined in claim 26, wherein:

the one of the mating pieces upon which the recess is formed includes a cylindrical end portion;

the other one of the mating pieces upon which the retention mechanism
5 is carried comprises an annular slot into which the cylindrical end portion extends upon connection of the mating pieces with relative connection movement;

the cylindrical end portion includes a detent formed therein;

the recess includes the detent; and

the retention member includes a ball positioned in the other one of the
10 mating pieces at a position within the annular slot to contact and extend within the detent upon connection of the mating pieces with relative connection movement and to withdraw from within the detent upon separation of the mating pieces from one another.

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28. (Original) An accessory connector as defined in claim 27, wherein the retention mechanism further comprises:

a biasing member contacting the ball to bias the ball into the detent upon connection of the mating pieces and to resist withdrawal of the ball from the
5 detent upon separation of the mating pieces.

29. (Previously presented) A method of connecting together two mating pieces of a gas-assisted electrosurgical accessory to a gas-assisted electrosurgical unit by interconnecting a male mating piece and a female mating piece to conduct RF electrical energy and a gas flow from the gas-assisted electrosurgical unit to the
5 electrosurgical accessory; the gas-assisted electrosurgical unit generating the RF electrical energy and delivering the gas flow; the electrosurgical accessory including the male mating piece, an accessory hose, an accessory conductor, a nozzle connected to receive the gas flow from the accessory hose and to issue the gas flow as a flow stream, and an electrode positioned within the nozzle and connected to the
10 accessory conductor to transfer the RF energy to ionize conductive pathways within the flow stream; the male mating piece including a gas passageway that is fluidly connected to the accessory hose, the male mating piece also including a connector electrode that is electrically connected to the accessory conductor; the female mating piece including an electrical terminal that is connected to receive the RF energy
15 generated by the gas-assisted electrosurgical unit and to electrically contact the connector electrode of the male mating piece upon connection of the female and male mating pieces, the female mating piece also including an internal gas flow path that is connected to receive the gas flow delivered from the gas-assisted electrosurgical unit and to conduct the gas flow to the gas passageway of the male
20 mating piece upon interconnection of the female and male mating pieces; said method comprising:

connecting the two mating pieces by moving the two mating pieces together along an axis in a relative axial connection movement;

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contacting a sealing member carried on one mating piece with a sealing
25 surface formed on the other mating piece, the sealing surface extending generally
parallel with the axis for a distance along the axis; and

resiliently compressing the sealing member in a radial direction relative
to the axis in contact with the sealing surface to establish a gas tight seal over a
range of relative axial connection movement extending from before the mating pieces
30 achieve a fully connected relationship.

30. (Previously presented) A method as defined in claim 29, further
comprising:

conducting gas flow and RF electrical energy between the connected
two mating pieces; and

5 contacting and sealing the sealing member with the sealing surface over
a portion of the predetermined length of the sealing surface along the axis.

31. (Original) A method as defined in claim 30, further comprising:

conducting the gas flow and the RF electrical energy in a space
circumscribed by the sealing surface and the contact of the sealing member with the
sealing surface.

32. (Original) A method as defined in claim 29, wherein the sealing surface
is generally cylindrically-shaped and concentric about the axis, and the sealing
member is annularly shaped.

33. (Previously presented) A method as defined in claim 29, further
comprising:

restraining the connected mating pieces against separation from one
another along the axis.

34. (Original) A method as defined in claim 33, further comprising:

restraining the connected mating pieces against separation by moving a
retention member carried by one mating piece into a recess formed in the other
mating piece upon the two mating pieces connecting with relative connection
5 movement; and

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moving the retention member out of the recess with manual force applied between two connected mating pieces to separate the mating pieces from one another.

35. (Original) A method as defined in claim 34, further comprising:
rotating the two mating pieces in one relative rotational direction with respect to one another to connect the mating pieces with relative connection movement; and
5 rotating the two mating pieces in the other relative rotational direction with respect to one another to separate the mating pieces.
36. (Original) A method as defined in claim 34, further comprising:
biasing a ball member into the recess upon connecting the two mating pieces with relative connection movement; and
overcoming a bias force biasing the ball member into the recess by
5 manual force of rotating the two mating pieces in the other relative rotational direction to move the ball from the detent to permit separation of the mating pieces.
37. (Original) A method of connecting together and disconnecting two mating pieces of gas-assisted electrosurgical accessory in a connected together relationship, comprising:
connecting the two mating pieces by moving the two mating pieces
5 together along an axis in a relative connection movement;
contacting a sealing member carried on one mating piece with a sealing surface formed on the other mating piece, the sealing surface extending generally parallel with the axis for a distance along the axis;
conducting a gas flow and RF electrical energy between the two
10 connected mating pieces;
restraining the connected mating pieces against separation by moving a retention member carried by one mating piece into a recess formed in the other mating piece upon the two mating pieces connecting with relative connection movement; and

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15 moving the retention member out of the recess with manual force applied between the two mating pieces to separate the mating pieces from one another.

38. (Original) A method as defined in claim 37, further comprising:

rotating the two mating pieces in one relative rotational direction with respect to one another to connect the mating pieces with relative connection movement;

5 biasing a ball member into the recess upon connecting the two mating pieces with relative connection movement;

rotating the two mating pieces in the other relative rotational direction with respect to one another to separate the mating pieces; and

overcoming a bias force biasing the ball member into the recess by
10 manual force of rotating the two mating pieces in the other relative rotational direction to move the ball from the detent to permit separation of the mating pieces.

39. (Original) A method of connecting a gas-assisted electrosurgical accessory to a gas-assisted electrosurgical unit by interconnecting a male mating piece and a female mating piece to conduct RF electrical energy and a gas flow from the gas-assisted electrosurgical unit to the electrosurgical accessory; the gas-assisted
5 electrosurgical unit generating the RF electrical energy and delivering the gas flow; the electrosurgical accessory including the male mating piece, an accessory hose, an accessory conductor, a nozzle connected to receive the gas flow from the accessory hose and to issue the gas flow as a flow stream, and an electrode positioned within the nozzle and connected to the accessory conductor to transfer the RF energy to
10 ionize conductive pathways within the flow stream; the male mating piece including a gas passageway that is fluidly connected to the accessory hose, the male mating piece also including a connector electrode that is electrically connected to the accessory conductor; the female mating piece including an electrical terminal that is connected to receive the RF energy generated by the gas-assisted electrosurgical
15 unit and to electrically contact the connector electrode of the male mating piece upon connection of the female and male mating pieces, the female mating piece also

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including an internal gas flow path that is connected to receive the gas flow delivered from the gas-assisted electrosurgical unit and to conduct the gas flow to the gas passageway of the male mating piece upon interconnection of the female and male
20 mating pieces; said method comprising:

radially sealing the interconnected female and male mating pieces to create a gas-tight seal between the gas flow path and the gas passageway when the mating pieces are interconnected with one another.

40. (Original) A method as defined in claim 39, wherein the female mating piece includes an outer wall that defines a cylindrical recess, and the male mating piece includes a radially compressible gas seal that surrounds the gas passageway, further comprising:

5 inserting part of the male mating piece and the gas seal into the cylindrical recess to establish a radial seal between the mating pieces by radially compressing the gas seal between the male mating piece and the cylindrical recess.

41. (Previously presented) A method as defined in claim 39, wherein the female and male mating pieces each include threads which are meshed together when the mating pieces are interconnected by screwing the male mating piece into the female mating piece, one mating piece including a recess and the other mating
5 piece including a restraining member biased into contact with the recess upon interconnecting the mating pieces, the method further comprising:

biasing the male mating piece against unscrewing from the female mating piece by contacting the restraining member with the recess and biasing the restraining member within the recess to resist relative unscrewing movement of the
10 male mating piece from the female mating piece.

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Part 2 – Remarks

This Amendment and Response responds to the final Office Action mailed December 28, 2006. In the December 28 Office Action, claims 1-10 and 22-25 were rejected under 35 USC 102(b) as anticipated by Cosmescu (5,836,909); claims 1-10 and 22-24 were rejected under 35 USC 103(a) as obvious from Trenconsky (4,901,719) in view of Cosmescu; and claims 11-21 and 26-41 were allowed.

Entry of the above identified claim amendments is respectfully requested under 37 CFR 1.116, and reconsideration is respectfully requested in view of the preceding claim amendments and these remarks.

Upon entry of this Amendment and response, claims 2, 3, 5-21, and 26-41 are pending.

Obviousness Rejection

The obviousness rejection presented on page 3 of the December 28 office action incorrectly refers to claims 1-20 as being rejected. In a telephone conference on March 19, Examiner confirmed that the reference to claims "1-20" was a typographical error and that the correct reference should have been "1-10," which is consistent with the summary stated on page 1 of the office action. This Amendment and Response is based on the obviousness rejection applying to claims 1-10 and 22-24. If this is incorrect, despite the telephone conversation with Examiner, another office action must be issued to give the Applicant a complete opportunity to respond.

Canceled and Amended Claims

The rejected independent claims 1 and 22 have been canceled. Claim 4, which previously depended upon canceled claim 1, has been canceled. Claims 23 and 24, which previously depended upon canceled claim 22, have been canceled. Claims 2, 3, and 5-9 have been amended to depend on allowed claim 40. Claim 10 has been amended to depend on allowed claim 16.

Only claims 2, 3, and 5-10 were previously rejected, but these claims have been amended to depend on allowed claims and should be allowable for that reason. Thus, all of the claims in the application should be allowable.

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The amendments to claims 2, 3, and 5-10 do not introduce new matter. The first paragraph of amended claim 2 following its preamble is a substantial duplicate of the first paragraph of allowed claim 29. The remaining amended claims contained substantially the same subject matter as previously, adjusted only for antecedent basis purposes.

Conclusion

As a result of the claim amendments and remarks set forth above, it is believed that all pending claims in this application are in condition for allowance. Allowance is respectfully requested.

The Examiner is requested to contact the undersigned by telephone to discuss any issues which may inhibit the immediate allowance of the application.

Respectfully submitted,

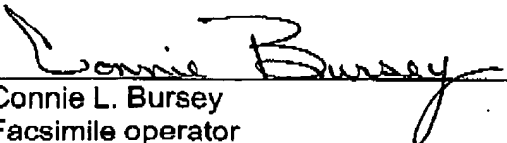
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Certificate of Filing by Facsimile Transmission

The undersigned hereby certifies that the foregoing **Amendment and Response to Final Office Action under 37 CFR 1.116**, including the attached transmittal letter showing that no additional fees are required, are being transmitted by facsimile to the United States Patent and Trademark Office, at the Central PTO facsimile number 571 273 8300, this 27th day of March 2007.


Connie L. Bursey
Facsimile operator